

CLAIMS

1. Image display device comprising:
 - a valve (1) of elements arranged in rows and columns, each of
5 said elements comprising a liquid crystal one of whose electrodes (E),
called the mirror electrode, is controlled by drive means so as to display
video information relating to at least one image,
 - means (2) for coding, for each image, the video information
intended to be displayed by each of the elements of the valve as a
10 common value shared by a group of at least two adjacent elements of the
valve and a specific value, and for transmitting them to said valve (1),
characterized in that said drive means consist in:
 - for each element of the valve, a specific drive means coupled to
the mirror electrode (E) of the liquid crystal of said element and intended to
15 store the specific value associated with the video information item to be
displayed by said element and to apply it to the mirror electrode of the
liquid crystal of said element and
 - for each group of at least two elements of the valve, a common
drive means coupled to each element of said group and intended to store
20 said common value associated with the video information item to be
displayed by said elements of the group and to apply it to the mirror
electrode (E) of the liquid crystals of the elements of said group,
the specific drive means and the common drive means that are
coupled to one and the same group of elements controlling the liquid
25 crystals of the elements of the group in such a way as to alternately display
the specific values and the common value of the video information relating
to the elements of the group for an image.
 - 2. Display device according to Claim 1, characterized in that it is able
30 to process video information relating to at least two colours transmitted
sequentially,
and in that the specific drive means and the common drive means that are
coupled to one and the same group of elements control the liquid crystals
of the elements of the group in such a way as to alternately display the
35 specific values of the video information relating to a colour and the
common values of the video information relating to said colour or to
another colour.
 - 3. Device according to claim 2, characterized in that it furthermore

comprises:

- a light source (3) for producing white light and illuminating said valve of elements (1), said valve reflecting or allowing through a quantity of light as a function of the specific and common values that are transmitted to it by the coding means (2), and
- a colour wheel (4), interposed between said light source (3) and said valve (1), comprising a colour segment for each of said at least two colours, said wheel being synchronized with the coding means (2) so that, when specific or common values relating to a colour are applied to the mirror electrodes (E) of the liquid crystals of the valve, the wheel segment corresponding to said colour filters the light produced by the source.

4. Device according to one of Claims 1 to 3, characterized in that the adjacent elements of said group belong to consecutive rows and to a column of elements of the valve.

5. Device according to one of Claims 1 to 3, characterized in that the adjacent elements of said group belong to consecutive rows and to consecutive columns of elements of the valve.

6. Device according to one of Claims 1 to 5, characterized in that the specific drive means of an element comprises:

- a first storage capacitor (CS1, CS1', CS1'', CS1''') for storing the specific values present on a column line of the valve and intended for said element,
- a first switch (T1; T1'; T1'' T1''') for connecting the column line (11) to a first end of said first storage capacitor (CS1, CS1', CS1'', CS1'''), the other end being connected to a fixed potential, and
- a second switch (T2, T2', T2'', T2''') for connecting the first end of the first storage capacitor to the mirror electrode (E) of the liquid crystal of the element.

7. Device according to one of Claims 1 to 6, characterized in that the common drive means of a group of elements of the valve comprises:

- a second storage capacitor (CS2) for storing the common value present on the column line of the valve and intended for said group,
- a third switch (T3) for connecting the column line (11) to a first end of the second storage capacitor (CS2), the other end being connected to a fixed potential, and

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- fourth switches (T4, T4', T4'', T4''') for connecting the first end of the second storage capacitor to the mirror electrodes (E) of the liquid crystals of the elements of the group.

5 8. Device according to one of the preceding claims, characterized in that the groups of elements comprise two elements.

9. Device according to one of Claims 1 to 7, characterized in that the groups of elements comprise four elements.